NEW YORK STATE DEPARTMENT OF TRANSPORTATION
MATERIALS BUREAU ALBANY, N.Y. 12232

MATERIALS METHOD

MATERIALS METHOD - NY 2.1

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INSPECTION, SAMPLING AND TESTING OF GRADE 60 STEEL REINFORCING BARS

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MAP CODE 7.42-1-2.1

I. SCOPE

This Method describes specific procedures for the control of Grade 60 steel reinforcing bars as specified in all DEPARTMENT CONTRACTS LET ON OR AFTER AUGUST 24, 1972. These procedures are designed to allow manufacturers to produce reinforcing bars conforming to Department specifications under their own quality control procedures and supply to Department projects through various fabrication shops on the basis of certifications of compliance with Department specifications executed by the Manufacturer and the Fabrication Shop. Manufacturing locations which demonstrate and maintain a history of satisfactory conformance with Department specifications and procedures are approved by the Materials Bureau to follow this Method.

Reinforcing bars as specified in Department contracts let prior to August 24,1972 and bars from manufacturing locations not approved by the Materials Bureau are controlled by the procedures of Materials Method N.Y. 2.

Also, this Method describes procedures for the Department's project personnel to follow to determine that the material arriving at the project site is in accordance with the Department's Quality Assurance Program.

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III. GENERAL METHOD

The Materials Bureau establishes a list of rolling mills approved to produce steel reinforcing bars. Such bars are supplied by fabricating shops to Department projects together with certified test reports covering the material in the shipment and/or a certificate indicating conformance to Department specifications.

Under Materials Bureau direction, periodic sampling of overall production is accomplished at rolling mills. Satisfactory test results under this sampling program and compliance with the certification procedures are the basis for a manufacturing location remaining on the Approved List. Unsatisfactory test results may cause permanent rejection of specific heats of material for Department use.

Project personnel inspect each incoming shipment to insure the presence of a proper certification form and the absence of any rejection material prior to delivery acceptance and incorporation into the work.

When necessary, rolling mills are removed from the Approved List until such time as they satisfactorily demonstrate conformance to Department specifications and procedures.

A rolling mill that has been removed from the Approved List can be returned to the Approved List by having four consecutive lots tested and accepted by the Materials Bureau.

A new mill is placed on the Approved List after ten consecutive lots are tested and accepted by the Materials Bureau.

IV. DEFINITION OF TERMS

1. MANUFACTURER - A company engaged in the production of steel reinforcing bars.

2. ROLLING MILL - A facility owned and operated by a Manufacturer for producing steel reinforcing bars at a specific location.

3. FABRICATION SHOP - A facility where reinforcing bars may be fabricated to meet the requirements called for on the job and from which bars are shipped to project sites.

4. DEPARTMENT - The New York State Department of Transportation.

5. MATERIALS BUREAU - A facility of the New York State Department of Transportation which may be contacted by mailing to:

   Mr. Harry H. McLean
   Director of Engineering Materials
   State Campus - Building #7A
   1220 Washington Avenue
   Albany, New York 12232

   OR

   Telephone the Product Control Office at:

   Area Code 518
   Telephone Number 457-5642

   OR

   T.W.X. to:

   710-441-88221
   N.Y.S. D.o.T., Albany Campus, Materials Bureau, P.C.O.

6. INSPECTION AUTHORITY - An Office designated by the Materials Bureau for inspection control on behalf of the Department.

7. INSPECTOR - An individual employed by the Inspection Authority and approved by the Materials Bureau, to function on inspection assignments on behalf of the Department.

8. PROJECT INSPECTOR - The Department Representative responsible for the Department's Quality Assurance Program at the project site.

9. LIST OF APPROVED ROLLING MILLS - A listing published by the Materials Bureau indicating all Rolling Mills that have been approved as suppliers of steel reinforcing bars under a certification program.

10. FORMS - The following forms are published and issued by the Department, for use by their designated representatives:

    a. BR-240, Sample and Acceptance Transmittal: This form transmits the Inspector's sample information to the Materials Bureau and upon validation conveys acceptance action to the Inspector. Detailed instructions for proper completion and transmittal are contained in Materials Method N.Y. 18.1. Applicable examples are shown in Appendix "A."

b. BR-241, Sample Transmittal Envelope:
This is a heavy-duty envelope used to contain Form BR-240.

c. BR-131, Steel Reinf. Tag:
This form is a yellow tag used on reinforcing bars for identification purposes.

d. BR-108, Rush Tag:
This form has the address of the Materials Bureau printed on it and may be used on the outside of sample bundles as a shipping tag.

11. REINFORCING BAR SHIPMENT CERTIFICATION - This document(s), executed by the Fabrication Shop, must accompany each shipment to Department projects of reinforcing bars from Rolling Mills on the Approved List. The following minimal information must be shown on this document:

a. Contractor's Name

b. Department Contract Number

c. Shipment Date

d. Vehicle Type and Identification Number

e. Itemized breakdown of shipment by bar size, heat number, Rolling Mill where produced and approximate weight.

f. Statement attesting that material in the shipment conforms to the specific NYS DoT specification designation.

g. Signature of Fabrication Shop employee responsible for shipment and date of execution. This form need not be notarized.

A sample format of the "Reinforcing Bar Shipment Certification" which may be reproduced can be found on Page 14. The entries, "Fabrication Contract No." and "Shipment No." were included on the certification for the convenience of the Fabrication Shop.

12. MILL-IMPRINT MARKINGS - Markings rolled into each bar which identify the rolling mill producing the bar, the type of steel used in manufacture and the strength grade of the bar. Drawings of the mill imprint markings for each mill on the Approved List will be issued with the Approved List.

V. STEPS IN PROCEDURE

Responsibility	Action
Materials Bureau	1. Establishes Approved List of Rolling Mills authorized to supply reinforcing bars for Department projects under a certification program. * a. The initial list is based on previous test history by the Materials Bureau for each Mill. b. This list will be updated, as necessary.

MATERIAL FLOW TO PROJECT SITE

Approved Rolling Mill	2. Produces reinforcing bars in conformance with NYS DoT Specifications. 3. Ships mill banded bundles of reinforcing bars to fabrication shop with mill test report covering each size bar of each heat shipped.
Fabrication Shop	4. Receives mill banded bundles with Mill Test Reports for each heat number and maintains file of such reports available to a Department representative at all times. 5. Receives order for NYS DoT reinforcing bars from a Contractor progressing a Department project. 6. Fabricates bars, as necessary, to fill order from mill banded bundles of certified stock. 7. Ships bars to Project with certification form approved by the Department (See Definition No. 11 on Page 4).

*NOTE - Reinforcing Bars from Manufacturing Locations Not on the Approved List are controlled by the Procedures of Materials Method N.Y. 2.

MONITOR SAMPLING PROCEDURE AT ROLLING MILLS ON APPROVED LIST

Responsibility	Action
Materials Bureau	8. Determines the frequency of monitor sampling at each Rolling Mill on Approved List. a. In general, this frequency will be based upon the volume supplied by the Mill. 9. Designates Inspection Authority for each Rolling Mill giving the frequency that samples will be taken.
Inspection Authority	10. Assigns Inspector as required
Inspector	11. Visits Rolling Mill and samples as many lots as produced during the Inspector's normal work day. a. A lot is defined as all the bars of any one size rolled at one time from the same heat. b. For each Lot, 20 two foot long random samples are to be taken at the shear location. 12. Assigns a Lot Number to each Lot for reference purposes. a. Consecutive Lot numbers starting with "1" at the beginning of each calendar year are to be used for each mill. 13. Affixes an identification tag, Form BR-131, to each bar in the sample. a. The lot number, heat number and bar size shall be entered on each tag. 14. Completes Form BR-240 for each lot in accordance with Materials Method N.Y. 18.1 and Example No.1 at the end of this Method.

Responsibility	Action
Inspector (cont'd)	15. Places BR-240 inside envelope, Form BR-241.
	16. Wraps samples for each lot and BR-241 envelope securely in burlap or heavy paper.
	a. Care shall be exercised to see that the barbed ends of the wrapping wire used to secure the bundles do not protrude.
	b. When necessary more than one bundle should be used to expedite handling during transmittal of the samples.
	17. Wires a shipping tag securely to the outside of each bundle.
	a. Form BR-108 is provided for this purpose, however, any tag showing the same address may be used.
	b. The Lot Number shall be indicated on each tag.
	18. Arranges with a commercial trucker's office for transmission of samples "Collect" to the Materials Bureau.
	a. The Inspector is expected to personally deliver the bundled samples to the trucker or to witness the "pick-up" of the samples by the trucker. If this is not possible, the Inspector is to seal the bundles, using any means at his disposal (including Department security seals), in such a manner as to make the sample bundles tamper-proof.
Materials Bureau	19. Performs required tests on the lot for conformance with Department Specifications.
	a. Of the 20 samples representing the lot, should two or more samples not meet the specification for any or all properties tested, the lot shall be rejected.
	20. Indicates acceptance action on BR-240.
	21. Validates BR-240 and sends to Inspection Authority as described in Materials Method N.Y. 18.1

Responsibility	Action
Inspection Authority	22. Retains yellow copy of BR-240 sends green copy to Inspector and notifies Mill of action taken by Materials Bureau.
	a. When the lot is ACCEPTED, this sequence of Steps ends here.
	b. When the lot is REJECTED, the sequence continues as follows.
Materials Bureau	23. Issues a rejection notice for the particular heat number to the Manufacturer, All Fabrication Shops*. Inspection Authorities and Region Offices of the Department.
	*NOTE: It is not necessary to notify all Fabrication Shops if the manufacturer can trace the rejected material and present the Department written documentation that the material did not go to Fabrication Shop(s) doing Department work and guarantee it will not go to Department work in the future.
Manufacturer, Mill & Fabrication Shops	24. Remove all material of rejected heats from shipments to NYS DoT projects.
Materials Bureau	25. Instructs Inspection Authority to obtain additional samples.
Inspection Authority	26. Assigns Inspector to visit Rolling Mill.
Inspector	27. Obtains samples from all lots produced at the mill during the inspector's normal work day. However, at least two (2) lots must be sampled.
	28. Packages and transmits samples to Materials Bureau as indicated in Steps Nos. 12 - 18 above.
Materials Bureau	29. Performs required tests on all samples.
	30. Indicates Acceptance Action on BR-240.
	a. If test results are satisfactory, the material is accepted and notification made as in Steps Nos. 20 and 21 above.
	b. If test results are unsatisfactory, the Rolling Mill loses its certification privilege as follows.

Responsibility	Action
Materials Bureau	31. Removes Rolling Mill from Approved List.
	32. Notifies Manufacturer, Fabrication Shops, Inspection Authorities and NYS DoT Region Offices that the Rolling Mill has been removed from the Approved List.
	a. The Rolling Mill cannot supply reinforcing bars for use on Department work under certification until such time as the Mill is returned to the Approved List as outlined in Step Nos. 37 - 41.
	b. Materials from this Rolling Mill can be supplied to the NYS DoT projects only under the provisions of Materials Method N.Y. 2.

PROJECT PROCEDURE

Responsibility	Action
Project Inspector	33. Inspects each incoming shipment of reinforcing bars for "Evidence of Acceptability."
	a. The following check list is provided to assist project Inspectors in determining acceptable deliveries of reinforcing bars.

CHECK LIST FOR INCOMING REINFORCEMENT BAR SHIPMENTS

			STEP
(1)	PRESENCE OF PROPER CERTIFICATION	YES.	GO TO #2
		NO	GO TO #5
(2)	ROLLING MILL ON APPROVED LIST	YES.	GO TO #3
		NO	GO TO #7
(3)	MILL-IMPRINT MARKINGS ON THE BARS MATCH THAT OF THE ROLLING MILL AND INDICATE THE REQUIRED STRENGTH GRADE (SEE DEFINITION 12)	YES.	GO TO #4
		NO	SEE STEP 34B
(4)	REJECTED HEAT NUMBERS INCLUDED IN SHIPMENT	YES.	SEE STEP 34A
		NO	ACCEPT DELIVERY

Responsibility	Action

Project Inspector (cont'd)

CHECK LIST FOR INCOMING REINFORCEMENT BAR SHIPMENTS

			STEP
(5)	CERTIFICATION OBTAINABLE IN REASONABLE TIME PERIOD.	YES.	GO TO #6
		NO	SEE STEP 34B
(6)	ROLLING MILL ON APPROVED LIST	YES.	GO TO #4
		NO	GO TO #7
(7)	PRESENCE OF BR-195	YES.	ACCEPT DELIVERY
		NO	SEE STEP 34B

*34A. Refuses delivery of those bars with rejected heat numbers.

34B. Refuses delivery of entire shipment.

35. Notifies Materials Bureau of details of delivery refusal.

Materials Bureau

36. Investigates matters with Fabricating Shop.

a. If this is first occurrence, warns Shop against a repeat situation.

b. A second unjustified occurrence will revert the Shop to full sampling and shipment inspection under Materials Method N.Y. 2.

*NOTE - Notifications of rejections should be kept on file and the certification scanned to assure that bars on that size and heat are not received for a period of one year after notification.

PROCEDURE FOR A NEW MILL ATTAINING APPROVED LIST STATUS OR A MILL RETURNING TO APPROVED LIST

Manufacturer

37. Submits written application to Materials Bureau to have a Rolling Mill placed on the Approved List.

Responsibility	Action
Materials Bureau	38. Evaluates request as related to Department supply requirements and, if in order, designates Inspection Authority for Rolling Mill.

STEPS NOS. 9 - 22 ABOVE ARE REPEATED UNTIL FOUR CONSECUTIVE LOTS ARE ACCEPTED. IN THE CASE OF ROLLING MILLS RETURNIGN TO THE APPROVED LIST, THESE LOTS MUST BE MANUFACTURED AFTER THE LAST LOT THAT FAILED TO MEET N.Y.S. D.o.T. SPECIFICATIONS AND CAUSED THE MILL'S REMOVAL FROM THE APPROVED LIST. FOR NEW MILLS STEPS NOS. 9 - 22 ARE REPEATED UNTIL 10 CONSECUTIVE LOTS ARE ACCEPTED.

39. Issues BR-240 covering consecutive acceptable Lots.

40. Revises Approved List to include added Rolling Mill.

41. Distributes updated Approved List to all involved parties.

APPENDIX

"Examples of Forms"

1. A BR-240 prepared by an Inspector for a random monitor sample obtained at a Rolling Mill on the Approved List.

BR-240 (1-68) SAMPLE AND ACCEPTANCE TRANSMITTAL
NYSDoT MATERIALS BUREAU

SERIAL NO: 46395 | DATE REC'D: | TEST NO:

TO:

Material Represented by the Sample Described Below Was _____

ON _____ For _____

(Action Official Only When Validated Below By The Materials Bureau)

UPPER PORTION FOR MATERIALS BUREAU ONLY — INSPECTOR TO COMPLETE ALL APPLICABLE BOXES BELOW

16 ADDITIONAL INFO (SEE INSTRUCTIONS ON REAR):
20 - 2' samples
#4 Bar
Heat No. 243N619

1 MATERIAL	2 ITEM NO	3 DATE SAMPLED	4 CONTRACT NO
Rebars	709-01	6/1/75	-

5 SUPPLIER AND LOCATION	6 QUANTITY IN LOT	7 LOT NO
XYZ Steel Co., Milltown, N.Y.	-	1

8 MANUFACTURER AND LOCATION (IF DIFFERENT THAN ABOVE)	9 BATCH NO	10 DATE OF MFGR
-	-	6/1/75

11 SAMPLED AT: [X] PLANT [ ] JOB
12 TYPE: [ ] CONTROL SAMPLE [X] INFO SAMPLE [ ] BPR SAMPLE [ ] APPROVED LIST MAT [ ] CERTIFIED MAT
13 SAMPLED FROM: Shear Location
14 SAMPLED BY (INCL DIST NO OR AGENCY): Pete Moss Reg. 5

15 CONTRACTOR AND PROJECT LOCATION: -

MATERIALS BUREAU VALIDATION:

RETAIN PINK COPY FOR YOUR RECORDS
FORWARD ALL OTHERS TO MATERIALS BUREAU

2. A BR-240 prepared by an Inspector for samples obtained because of a rejected monitor sample at a Rolling Mill on the Approved List.

BR-240 (1-68) SAMPLE AND ACCEPTANCE TRANSMITTAL
NYSDoT MATERIALS BUREAU

SERIAL NO: 46396 | DATE REC'D: | TEST NO:

TO:

Material Represented by the Sample Described Below Was _____

ON _____ For _____

(Action Official Only When Validated Below By The Materials Bureau)

UPPER PORTION FOR MATERIALS BUREAU ONLY — INSPECTOR TO COMPLETE ALL APPLICABLE BOXES BELOW

16 ADDITIONAL INFO (SEE INSTRUCTIONS ON REAR):
20 - 2' Samples
#4 Bar
Heat No. 457K642
Additional sampling due to rejected Lot 1.

1 MATERIAL	2 ITEM NO	3 DATE SAMPLED	4 CONTRACT NO
Rebars	709-01	6/5/75	-

5 SUPPLIER AND LOCATION	6 QUANTITY IN LOT	7 LOT NO
XYZ Steel Co., Milltown, N.Y.	-	6

8 MANUFACTURER AND LOCATION (IF DIFFERENT THAN ABOVE)	9 BATCH NO	10 DATE OF MFGR
-	-	6/5/75

11 SAMPLED AT: [X] PLANT [ ] JOB
12 TYPE: [ ] CONTROL SAMPLE [X] INFO SAMPLE [ ] BPR SAMPLE [ ] APPROVED LIST MAT [ ] CERTIFIED MAT
13 SAMPLED FROM: Shear Location
14 SAMPLED BY (INCL DIST NO OR AGENCY): Pete Moss Reg. 5

15 CONTRACTOR AND PROJECT LOCATION: -

MATERIALS BUREAU VALIDATION:

RETAIN PINK COPY FOR YOUR RECORDS
FORWARD ALL OTHERS TO MATERIALS BUREAU

APPENDIX (cont'd)

3. A BR-240 prepared by an Inspector for the second sample obtained at a Rolling Mill applying to Return to the Approved List.

BR-240 1 68 SAMPLE AND ACCEPTANCE TRANSMITTAL NYSDoT MATERIALS BUREAU

SERIAL NO 46397 | DATE REC'D | TEST NO

TO:

Material Represented by the Sample Described Below Was _____

ON _____ For _____

(Action Official Or Agent Validated Below By The Materials Bureau)

UPPER PORTION FOR MATERIALS BUREAU ONLY — INSPECTOR TO COMPLETE ALL APPLICABLE BOXES BELOW

16 ADDITIONAL INFO (SEE INSTRUCTIONS ON REAR)

20 - 2' Samples

#8 Bar

Heat No. 915S720

Second Lot for Mill to return to Approved List.

1 MATERIAL	2 ITEM NO	3 DATE SAMPLED	4 CONTRACT NO
Rebars	709-01	6/10/75	-

5 SUPPLIER AND LOCATION	6 QUANTITY IN LOT	7 LOT NO
XYZ Steel Co., Milltown, N.Y.	-	8

8 MANUFACTURER AND LOCATION (IF DIFFERENT THAN ABOVE)	9 BATCH NO	10 DATE OF MFGR
-	-	6/10/75

11 SAMPLED AT 12 TYPE

- [ ] PLANT
- [ ] JOB
- [ ] CONTROL SAMPLE
- [X] INFO SAMPLE
- [ ] BPR SAMPLE
- [ ] APPROVED LIST MAT
- [ ] CERTIFIED MAT

13 SAMPLED FROM: Shear Location

14 SAMPLED BY (INCL DIST NO OR AGENCY): Chas. Wagon Reg. 5

15 CONTRACTOR AND PROJECT LOCATION: -

MATERIALS BUREAU VALIDATION:

RETAIN PINK COPY FOR YOUR RECORDS
FORWARD ALL OTHERS TO MATERIALS BUREAU

4. A BR-240 prepared by an Inspector for the first sample obtained at a new Rolling Mill applying for Approved List Status.

BR-240 1 68 SAMPLE AND ACCEPTANCE TRANSMITTAL NYSDoT MATERIALS BUREAU

SERIAL NO 46398 | DATE REC'D | TEST NO

TO:

Material Represented by the Sample Described Below Was _____

ON _____ For _____

(Action Official Or Agent Validated Below By The Materials Bureau)

UPPER PORTION FOR MATERIALS BUREAU ONLY — INSPECTOR TO COMPLETE ALL APPLICABLE BOXES BELOW

16 ADDITIONAL INFO (SEE INSTRUCTIONS ON REAR)

20 - 2' Samples

#6 Bar

Heat No. 09S1972

New Rolling Mill First Lot.

1 MATERIAL	2 ITEM NO	3 DATE SAMPLED	4 CONTRACT NO
Rebars	709-01	6/15/75	-

5 SUPPLIER AND LOCATION	6 QUANTITY IN LOT	7 LOT NO
Strong Steel Co., Irontown, Pa.	-	1

8 MANUFACTURER AND LOCATION (IF DIFFERENT THAN ABOVE)	9 BATCH NO	10 DATE OF MFGR
-	-	6/15/75

11 SAMPLED AT 12 TYPE

- [ ] PLANT
- [ ] JOB
- [ ] CONTROL SAMPLE
- [X] INFO SAMPLE
- [ ] BPR SAMPLE
- [ ] APPROVED LIST MAT
- [ ] CERTIFIED MAT

13 SAMPLED FROM: Shear Location

14 SAMPLED BY (INCL DIST NO OR AGENCY): Irving Glick TTL

15 CONTRACTOR AND PROJECT LOCATION: -

MATERIALS BUREAU VALIDATION: Testville, Pa.

RETAIN PINK COPY FOR YOUR RECORDS
FORWARD ALL OTHERS TO MATERIALS BUREAU

REINFORCING BAR SHIPMENT CERTIFICATION

FABRICATOR		PLANT LOCATION	TOTAL WEIGHT ON VEHICLE (LBS.)
SOLD TO		FABRICATOR CONTRACT NO.	NYS DOT CONTRACT NO.
DATE SHIPPED	SHIPMENT NO.	VEHICLE IDENTIFICATION	VEHICLE TYPE

MATERIAL INCLUDED IN SHIPMENT

BAR SIZE	HEAT NUMBER	PRODUCING ROLLING MILL	MILL LOCATION

I HEREBY CERTIFY THAT THE DEFORMED BILLET STEEL BARS HEREIN DESCRIBED CONFORM TO NEW YORK STATE DEPARTMENT OF TRANSPORTATION SPECIFICATION M17X(709-01) BAR REINFORCEMENT FOR CEMENT CONCRETE (ASTM A-615 - GRADE 60).

_____
DATE

_____
TITLE